

CLAIMS

- Sub Q 13*
1. A magnetic bearing apparatus provided at least with a rotor shaft, a radial magnetic bearing for supporting said rotor shaft in a radial direction, a thrust magnetic bearing for supporting said rotor shaft in an axial direction, a touchdown bearing composed of a pair of roller bearings arranged to surround a lower end portion of said rotor shaft, and a corrugated plate-like damper member inserted into an annular gap between said touchdown bearing and its retainer member, characterized by comprising a positional offset preventing means of said corrugated plate-like damper member provided in said annular gap.
 2. The magnetic bearing apparatus according to claim 1, characterized in that said corrugated plate-like damper member is composed of a pair of corrugated plate-like damper members and said positional offset preventing means is a metal thin plate interposed between said pair of corrugated plate-like damper members.
 3. The magnetic bearing apparatus according to claim 1, characterized in that said corrugated plate-like damper member is composed of a pair of corrugated plate-like damper members and said positional offset preventing means is an annular convex portion formed in an inner circumferential surface of said retainer member for separating said pair of corrugated plate-like damper members up and down.
 4. The magnetic bearing apparatus according to claim 1,

characterized in that said positional offset preventing means is an annular concave portion formed in an inner circumferential surface of said retainer member for receiving said corrugated plate-like damper member.

5. The magnetic bearing apparatus according to claim 2, 3 or 4, characterized in that a thickness of a metal thin plate, a sum ($T+t$) of a height of annular convex portion or a depth of an annular concave portion T and a thickness t of a corrugated strip steel plate is 0.8 to 1.3 times of a width δ of the annular gap.

6. A vacuum pump provided with the magnetic bearing apparatus according to claim 1.

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